

INORGANIC CHEMIST

Class Definition

Under general supervision, performs specific inorganic chemical analyses of water, wastewater, sludges, soil, and similar material in accordance with prescribed methods.

Distinguishing Characteristics

Inorganic Chemist is a single position advanced level technical class. Reporting to the Wastewater Management Division Laboratory Supervisor, the incumbent performs complex inorganic chemical analyses. These duties are specific to the area of inorganic chemistry, primarily metal analyses, which include quality assurance/control, atomic absorption (ADMIN AMENDMENT) instrumentation, inductively coupled plasma atomic emission spectroscopy (ICP or ICP-AES) instrumentation and preparation of reagents. The Inorganic Chemist performs assigned duties with considerable independence with results achieved through precision and accuracy, and proficiency in the performance of analyses. This class differs from Laboratory Supervisor in that the latter is the first-line supervisory class in which the incumbent is assigned overall responsibility for the laboratory. Inorganic Chemist differs from Senior Laboratory Technician in that incumbents of the latter provide lead direction to lower level staff on an assigned shift.

Typical Tasks

(The incumbent may not be assigned all duties listed, nor do the examples cover all duties which may be assigned.)

Performs complex and specialized quantitative metal analyses of water, wastewater, raw and digested sludges, soils, and similar materials through atomic absorption spectrometric methods and/or inductively coupled plasma methods.

Assists other laboratory personnel in the performance of more complex inorganic chemical tests and analyses.

Assists in the development and maintenance of the laboratory Quality Assurance/Quality Control program for metals analyses.

Operates and maintains the atomic absorption spectrometer for flame, graphite furnace, vapor generation technologies, and/or inductively coupled plasma instrumentation.

Trains laboratory technicians in the procedure and theory of metals analyses, atomic absorption spectrometric and inductively coupled plasma technologies.

Records test data and keeps records pertaining to analyses through the interfacing of the atomic absorption spectrometer and inductively coupled plasma instrumentation with the Laboratory Information Management System.

Performs more complex calculations in analysis determination and report writing.

Performs related duties as required.

Knowledge, Abilities and Skills

Considerable knowledge of the principles of inorganic chemistry including qualitative and quantitative analyses.

Considerable knowledge of the care, maintenance, and operational requirements of an atomic absorption spectrometer with flame, graphite furnace, vapor generation capabilities, and ICP instrumentation.

Knowledge of computers and their function in the laboratory setting.

Knowledge of quality assurance/quality control procedures.

Ability to prepare clear and accurate scientific reports including graphic and statistical representations.

Ability to perform laboratory examinations in a safe and efficient manner.

Ability to assist in training subordinate staff members in procedures pertaining to metals analyses.

Ability to establish and maintain effective working relationships. Ability to interpret laboratory data.

Minimum Qualifications

Graduation from an accredited college or university with a Bachelor's Degree in chemistry or closely related field; and one (1) year of experience in flame, graphite furnace, and/or vapor generation atomic absorption spectrometry, and/or inductively coupled plasma atomic emission spectroscopy instrumentation.

Necessary Special Requirement

Possession of a valid California Driver's License at time of appointment

Possession of a valid California Water Pollution Control Association Grade II Laboratory Technologist Certification within two years of appointment.

APPROVED: _____

Director of Personnel

DATE: _____